



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

Western Regional Office • 436 Dwight Street, Springfield MA 01103 • 413-784-1100

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November 14, 2012

James Ryan, Chief Operating Officer  
Polymer Corporation  
180 Pleasant Street  
Rockland, MA 02378

Re: Palmer  
Appl. #WE-12-020; Trans. #X252926  
Class: SM25  
FMF No.:596930

### **Air Quality Plan Approval**

### **New Dip Tank Process & Relocation of Equipment from Monson facility to Palmer facility**

Dear Mr. Ryan:

The Massachusetts Department of Environmental Protection, Western Regional Office ("MassDEP") has reviewed your Limited Plan Application ("Application") listed above. This Application concerns the proposed installation and operation of a new dip tank coating process and the proposed relocation of previously approved plastic injection molding machines and spray painting equipment (MassDEP Approval #1-P-90-097 dated May 16, 2001) from 96 Palmer Road in Monson, Massachusetts to One Third Street in Palmer, Massachusetts.

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 "Air Pollution Control," regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-J, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP's review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this Plan Approval for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the new facility to be located in Palmer, Massachusetts (hereinafter "Polymer Corporation–Palmer") must comply in order for the Facility to be operated in compliance with this Plan Approval.

## **1. DESCRIPTION OF FACILITY AND APPLICATION**

### **A. New Dip Tank Coating Process**

Polymer Corporation–Palmer will be adding a new dip tank process to apply a camouflage design to its plastic parts. The technique is called "water soluble printing". The process begins with a water soluble polyvinyl film laid on the water surface of a dip tank. The print film is sprayed with a chemical activator, which dissolves the film and allows the print pattern to float on the water. The plastic part is then dipped into the tank to coat the part with the print pattern. At this point the coating has adhered to the part and is only in need of a water rinse.

Initially, three different types of activator chemical will be used:

1. HG Activator Blend sold by Hydrographics by Design
2. 3-3502 Activator sold by Carolina Solvents
3. Clear Hydro-graphic Activator sold by RPM finished group.

The potential to emit from this process (based on operating 24 hr/day and 330 days/yr and using 3 gallons/day of a worst case activator spray weighing 7.9 lb/gallon and containing 92% VOC and 57% HAP) is 3.6 tons VOC and 2.3 tons HAP.

### **B. Injection Molding Machines**

The Polymer Corporation will relocate a number of injection molding machines for the production of plastic parts to a new facility in Palmer, Massachusetts. These machines will be vented into the workspace, and will not be a significant source of air emissions, as per MassDEP memo of May 16, 2001. For some products, Polymer Corporation–Palmer will use a mold release agent containing zinc stearate for the first few parts in a production run. This chemical is supplied in aerosol cans. The injection molding machines have potential emissions of less than one ton of volatile organic compounds ("VOCs") per year.

### **C. Spray Painting Booths and Spray Guns**

Typically, less than fifteen percent of Polymer Corporation–Palmer's products will be coated in spray booths prior to packaging and shipping. The facility will have two single-bay spray booths and one three-bay booth, for a total of five spray booth bays. All five bays will be equipped with dry fiber mat filters that will be changed based on spray booth face velocity measurements. Polymer Corporation–Palmer will use high volume low pressure ("HVLP") spray guns, which will be cleaned in a Safety-Kleen Model 1111 gun washer machine (or equivalent).

The Polymer facility to be relocated from Monson, Massachusetts currently uses relatively small amounts of coatings annually. The 2011 Source Registration (the most recent year available) for the facility lists actual emissions of 0.71 tons of VOCs per year and 0.12 tons of particulate matter ("PM") from the spray booths.

Polymer Corporation–Palmer currently uses paints containing no HAPs. However they have requested, and MassDEP has granted, a small monthly and yearly HAP emission limit from the spray painting booths to allow for a limited flexibility in future paint specification.

The spray painting equipment will be exempt from 310 CMR 7.18(21), Surface Coating of Plastic Parts, because the potential emission of VOCs from this equipment is less than 50 tons per year. The 2011 Source Registration for the facility reports that the facility-wide potential to emit is 5.4 tons of VOCs per year.

## **2. EMISSION UNIT (EU) IDENTIFICATION**

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

<b>Table 1</b>			
<b>EU#</b>	<b>Description</b>	<b>Design Capacity</b>	<b>Pollution Control Device</b>
EU 1	3 x Binks Model 3-7-16 spray booth bays		particulate filters
EU 2	2 x Binks Model 2712 spray booth bays		particulate filters
EU 3	Dip Tank Coater		none

## **3. APPLICABLE REQUIREMENTS**

### **A. Operational, Production and Emission Limits**

Polymer Corporation–Palmer is subject to, and shall not exceed the Operational, Production, and/or Emission Limits as contained in Table 2, below:

<b>Table 2</b>				
<b>EU#</b>	<b>VOC emission limits</b>		<b>HAP Emission Limits</b>	
	<b>lb/month <sup>(1)</sup></b>	<b>ton/yr <sup>(2)</sup></b>	<b>lb/month <sup>(1)</sup></b>	<b>ton/yr <sup>(2)</sup></b>
<b>EU 1</b>	2724	5.45	100	0.5
<b>EU 2</b>				
<b>EU 3</b>	1800	3.6	1125	2.23 (total HAPs)
<b>Facility-Wide</b>	4524	9.05	1225	2.73 (total HAPs)

**(1)** Calendar Month

**(2)** Rolling 12-month total

**B. Compliance Demonstration**

Polymer Corporation–Palmer is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5 below:

<b>Table 3</b>	
<b>EU#</b>	<b>Monitoring and Testing Requirements</b>
EU 1, 2	<ol style="list-style-type: none"> <li>1. Polymer Corporation–Palmer shall monitor on a daily basis the spray booth face velocity (when operating) and filter appearance.</li> <li>2. Polymer Corporation–Palmer shall monitor on a calendar month basis:               <ol style="list-style-type: none"> <li>a. the amount of each VOC/HAP containing paint used;</li> <li>b. the amount of other VOC/HAP containing material used;</li> <li>c. the VOC/HAP content of each of these paints or other VOC/HAP containing materials, in terms of pounds of VOC/HAP per gallon; and</li> <li>d. the pounds of VOC/HAP emitted.</li> </ol> </li> </ol>
EU 3	<ol style="list-style-type: none"> <li>3. Polymer Corporation–Palmer shall monitor on a calendar month basis the amount of activator and other VOC/HAP containing materials used in the dip coat operation.</li> </ol>
Facility-Wide	<ol style="list-style-type: none"> <li>4. Polymer Corporation–Palmer shall monitor on a calendar month basis the amount of VOC/HAP containing materials used facility-wide.</li> <li>5. Polymer Corporation–Palmer shall perform, at the request of the MassDEP or EPA, tests to characterize VOC/HAP and solids contents of VOC/HAP containing materials used.</li> <li>6. Polymer Corporation–Palmer shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.</li> <li>7. If and when MassDEP requires it, Polymer Corporation–Palmer shall conduct emission testing in accordance with USEPA Reference Test Methods and Regulation 310 CMR 7.13.</li> </ol>

<b>Table 4</b>	
<b>EU#</b>	<b>Record Keeping Requirements</b>
EU 1, 2	<ol style="list-style-type: none"> <li>1. Polymer Corporation–Palmer shall keep daily records of spray booth face velocity (when operating) and filter appearance as determinants of insufficient airflow or plugged filters.</li> <li>2. Polymer Corporation–Palmer shall maintain records at the plant for the paint spray booth detailing for each calendar month and for each rolling 12-month period: <ol style="list-style-type: none"> <li>a. the amount of each VOC/HAP containing paint used;</li> <li>b. the amount of other VOC/HAP containing material used;</li> <li>c. the VOC/HAP content of each of these paints or other VOC/HAP containing materials, in terms of pounds of VOC/HAP per gallon; and</li> <li>d. the pounds of VOC/HAP emitted.</li> </ol> </li> <li>3. Polymer Corporation–Palmer shall maintain copies of all maintenance records for all paint spray booths, the paint spray guns, and gun washer(s).</li> </ol>
EU 3	<ol style="list-style-type: none"> <li>4. Polymer Corporation–Palmer shall maintain records at the plant for the dip tank detailing for each calendar month and for each rolling 12-month period: <ol style="list-style-type: none"> <li>a. the amount of each VOC/HAP containing activator and other VOC/HAP containing materials used;</li> <li>b. the VOC/HAP content of each of these items; and</li> <li>c. the pounds of VOC/HAP emitted.</li> </ol> </li> </ol>
Facility-Wide	<ol style="list-style-type: none"> <li>5. Polymer Corporation–Palmer shall keep records of the amount of all VOC/HAP containing materials used at the facility and the amount of VOC/HAP emitted to the ambient air.</li> <li>6. Polymer Corporation–Palmer shall maintain all records to demonstrate compliance with the conditions of this Approval on-site for a minimum of five years and shall make these records available to the MassDEP upon request.</li> </ol>

Table 5	
EU#	Reporting Requirements
Facility-wide	<ol style="list-style-type: none"> <li>1. Polymer Corporation–Palmer shall generate monthly reports in-house that document the compliance with the limits specified herein. If any emission limit(s) is exceeded, Polymer Corporation–Palmer shall notify the MassDEP in writing no later than the 15<sup>th</sup> day of the following month.</li> <li>2. Polymer Corporation–Palmer shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).</li> <li>3. Polymer Corporation–Palmer shall notify the Western Regional Office of MassDEP, BWP Permit Chief by telephone at (413) 755-2115, by email at <a href="mailto:Marc.Simpson@state.ma.us">Marc.Simpson@state.ma.us</a>, or fax at (413) 784-1149 as soon as possible, but no later than one (1) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Marc Simpson, Permit Chief at MassDEP within three (3) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).</li> <li>4. Polymer Corporation–Palmer shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30-days from MassDEP's request.</li> </ol>

#### **4. SPECIAL TERMS AND CONDITIONS**

Polymer Corporation–Palmer shall comply with the Special Terms and Conditions as contained in Table 6 below:

<b>Table 6</b>	
<b>EU#</b>	<b>Special Terms and Conditions</b>
EU 1, 2	<ol style="list-style-type: none"> <li>1. Polymer Corporation–Palmer shall ensure that the paint spray booth exhausts use dry fiber mat filter with total thickness of at least two inches and that achieves particulate control efficiency of at least 97% by weight.</li> <li>2. Polymer Corporation–Palmer shall ensure that the face velocity at the opening of each paint spray booth is maintained at <math>\geq 100</math> feet per minute, as an indication of particulate filter condition.</li> <li>3. Polymer Corporation–Palmer shall ensure that the paint spray guns are cleaned inside a totally enclosed gun washer system, and that any used cleanup solution is recirculated, stored or disposed of in a manner that will minimize evaporation to the atmosphere.</li> <li>4. Polymer Corporation–Palmer shall ensure that the stacks from the paint spray booths are vertical, do not impede vertical gas flow, and that the stack tops are a minimum of 10 feet above rooftop or fresh air intake, whichever is higher.</li> <li>5. Polymer Corporation–Palmer shall ensure that stack exit velocity from the paint spray booths is a minimum of 50 feet per second.</li> </ol>
EU 3	<ol style="list-style-type: none"> <li>6. Polymer Corporation–Palmer shall ensure that the stack from the dip tank exhaust is vertical, does not impede vertical gas flow, and that the stack tops are a minimum of 10 feet above rooftop or fresh air intake, whichever is higher.</li> <li>7. Polymer Corporation–Palmer shall ensure that stack exit velocity from the dip tank exhaust is a minimum of 40 feet per second.</li> </ol>
Facility-Wide	<ol style="list-style-type: none"> <li>8. Polymer Corporation–Palmer shall ensure that clean-up solutions containing VOC/HAP are kept in tightly covered containers during transport and storage; and that cleaning rags used in conjunction with the cleanup solution are placed, when not in use, in closed containers and collected for proper disposal.</li> <li>9. Polymer Corporation–Palmer shall ensure that all VOC/HAP compounds are stored and disposed of in a manner which will minimize evaporation to the atmosphere.</li> </ol>



## **5. GENERAL CONDITIONS**

Polymer Corporation–Palmer is subject to, and shall comply with, the following general conditions:

- A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, if any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).
- B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.
- C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.
- D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.
- E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.
- F. If there are any differences between the Application and this Plan Approval, the Plan Approval shall govern.
- G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.
- H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.

- I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.
- J. The Permittee shall conduct emission testing, if requested by MassDEP, in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13. If required, a pretest protocol report shall be submitted to MassDEP at least 30 days prior to emission testing and the final test results report shall be submitted within 45 days after emission testing.
- K. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

## **6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT**

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain "Fail-Safe Provisions," which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

## **7. APPEAL PROCESS**

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts  
Department of Environmental Protection  
P.O. Box 4062  
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

If you have any questions concerning this Plan Approval, please contact John Kirzec by telephone at (413) 755-2225 or in writing at the letterhead address.

Sincerely,

This final document copy is being provided to you electronically by the  
Department of Environmental Protection. A signed copy of this document  
is on file at the DEP office listed on the letterhead.

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Marc Simpson  
Permit Chief  
Western Region